

AUTHOR INDEX

Bertolino, F., 239
Burford, R. L., 217

Carroll, J. D., 185

de Leeuw, J., 159
De Soete, G., 185
Desarbo, W. S., 185

El-Shishiny, H., 231
Espahbodi, H., 1
Espahbodi, P., 1

Fan, L. T., 13
Forgeard, F., 35
Fox, D. R., 101

Gaul, W., 273
Gheva, D., 55

Helms, B. P., 89
Herbert, J. H., 149
Herrin, G. D., 79

Jaraiedi, M., 79
Jean, W. H., 89

Katz, J. L., 217

Mansour, H., 231
Mau, J., 283
McNickle, D. C., 65
Menaldi, J.-L., 205
Mendelson, H., 115

Nassar, R., 13
Neogi, D., 13

Ramaswamy, V., 185
Robin, M., 205

Sahin, I., 173
Schader, M., 273
Schoentgen, J., 127
Shoukry, E. M., 143

Tallur, B., 35
Tehrani, H., 1

van der Burg, E., 159

Walawender, W. P., 13
Williams, B. K., 253

Yutani, N., 13

KEY WORD INDEX

- Aalen plots, 283
- Absorption, 217
- Adaptive expectations, 1
- Aggregation, 273
- Autocorrelation, 13

- Biplot, 55
- Bootstrap, 159
- Bound improvement, 253

- Canonical correlation analysis, 159
- Censoring, 283
- Chernoff-Kullback-Kailath region, 239
- Classification and discrimination of a specific group, 239
- Cluster analysis, 273
- Clustering analysis, 127
- Confidence interval, 159
- Contiguity restraint, 35
- Contraction, 253
- Correlations, 65
- Counting process, 283
- Covariance, 231
- Curve fitting, 79
- Cutpoint decomposition, 101

- Data analysis, 149, 273
- Delta method, 159
- Distance, 273
- Distribution of stock returns, 115
- Dummy variables, 149
- Dynamic programming, 205

- Econometrics, 149
- Estimate of misclassification, 239
- Estimation, 217, 231

- Finance, 89
- Fluidized bed, 13

- Hierarchical classification, 35

- Illness-death process, 283
- Information content, 1
- Inspection error, 79
- Intree enumeration, 101
- Inventory theory, 173
- Investments, 89

- Jack-knife, 159
- Jackson networks, 65

- Laryngeal pathology features, 127
- Likelihood of the links algorithm 35
- Lorenz curve, 115

- Mahalanobis distance and observation shape, 239
- Maintenance, 205

- Market efficiency, 1
- Market structure analysis, 185
- Markov chains, 217
- Markov decision process, 253
- Markov processes, 101
- Maximum likelihood, 185, 231
- Measure of association, 35
- Merit factor, 127
- Multi-state survival, 283
- Multi-step regression, 283
- Multidimensional multivariate system, 55
- Multiple comparison test, 149

- Natural gas demand, 149
- Necessary conditions, 89
- Non-linear transformation, 159
- Non-parametric tests, 115

- Optimality conditions, 173
- Optimization, 253
- Ordinal data, 273

- Paired comparisons data, 273
- Paired comparisons, 185
- Partial adjustment, 1
- Plant recolonization, 35
- Plant species, 35
- Power spectrum, 13
- Preference trees, 185
- Pressure fluctuations, 13
- Pure death process, 143

- Quantile-preserving spread, 115
- Queue lengths, 65
- Queueing systems, 205
- Queueing, 101

- Random matrix, 217
- Random search, 231
- Regression analysis, 149
- Relations, 273
- Relative discriminant contribution, 239

- Sebestyen approach, 239
- Security returns, 1
- Signal detection theory, 79
- Social choice theory, 273
- Stability in a system, 55
- Stationary analysis, 173
- Stochastic dominance, 89
- Stochastic model, 13

- Time series, 13
- Transition diagrams, 101

- Ultrametric trees, 185

- Variance components, 231



Applied Stochastic Models and Data Analysis

Contents

VOLUME 4 NUMBERS 1-4 1988

NUMBER 1

Insurance, economics and finance

- H. ESPAHBODI, P. ESPAHBODI AND H. TEHRANIAN
An Alternative Description of the Stochastic Process Generating Security Returns 1

Physics and chemistry

- D. NEOGI, L. T. FAN, N. YUTANI, R. NASSAR AND W. P. WALAWENDER
Effect of Superficial Velocity on Pressure Fluctuations in a Gas-Solid Fluidized Bed: a Stochastic Analysis 13

Clustering and classification: Factorial analysis

- B. TALLUR AND F. FORGEARD
Study of the Plant Recolonization Process in a Burnt Heathland using a Method of Hierarchical Classification 35

Factorial analysis

- D. GHEVA
Diagnosing Departures from Stability in a Multidimensional Multivariate System 55

Marketing, production, planning and inventory: Queuing

- D. C. McNICKLE
Lagged Correlations in Simple Queueing Networks 65

Book Review 73

NUMBER 2

- In Memoriam: Louis Guttman (1916-1987)** 75

Statistical validation: Marketing, production, planning and inventory

- M. JARAIEDI AND G. D. HERRIN
A Non-parametric Method for Fitting ROC Curves for Evaluation of Industrial Inspection Performance 79

Insurance, economics and finance

- W. H. JEAN AND B. P. HELMS
Necessary Conditions for Stochastic Dominance: A General Approach 89

Indexed or abstracted by Cambridge Scientific Abstracts, Current Index to Statistics, Engineering Index, Executive Sciences Institute, Mathematical Reviews, Statistical Theory and Method Abstracts, and Zentralblatt für Mathematik

Queueing

- D. R. FOX
Block Cutpoint Decomposition for Markovian Queueing Systems 101

Statistical validation: Insurance, economics and finance

- H. MENDELSON
Testing Quantile-preserving Spreads 115

Natural language processing: Clustering and classification

- J. SCHOENTGEN
**Performance of Jitter in Discriminating Between Normal and Dysphonic Speakers—
 Presentation of Problem** 127

Book Reviews 137**Announcement** 141

NUMBER 3

New applicable models

- E. M. SHOUKRY
**A General Pure Death Process Model and the Distribution of the Time Required to Remove
 a Fixed Number of Elements** 143

Environment and energy: Insurance, economics and finance

- J. H. HERBERT
**A Data Analysis of Residential Demand for Natural Gas using Step-down Multiple
 Comparison Tests** 149

Statistical validation

- E. VAN DER BURG AND J. DE LEEUW
**Use of the Multinomial Jack-knife and Bootstrap in Generalized Non-linear Canonical
 Correlation Analysis** 159

Marketing, production, planning and inventory

- I. SAHIN
Optimality Conditions for Regenerative Inventory Systems under Batch Demands 173

Marketing, production, planning and inventory: Clustering and classification

- W. S. DESARBO, G. DE SOETE, J. D. CARROLL AND V. RAMASWAMY
**A New Stochastic Ultrametric Tree Unfolding Methodology for Assessing Competitive
 Market Structure and Deriving Market Segments** 185

Queueing: Automatics, filtering, decision and control

- J.-L. MENALDI AND M. ROBIN
On the Control of Queueing Systems with Failures and Repairs 205

Announcements 215

VOLUME CONTENTS

v

NUMBER 4

Statistical validation: New applicable models

J. L. KATZ AND R. L. BURFORD

Estimating Mean Time to Absorption for a Markov Chain with Limited Information 217

Statistical validation

H. EL-SHISHINY AND H. MANSOUR

A New Method for the Estimation of Variance Components Directly from the Sample Covariance Matrix 231

Clustering and classification

F. BERTOLINO

On the Classification of Observations Structured into Groups 239

Decision and control

B. K. WILLIAMS

MARKOV: A Methodology for the Solution of Infinite Time Horizon Markov Decision Processes 253

Clustering and classification

W. GAUL AND M. SCHADER

Clusterwise Aggregation of Relations 273

New applicable models: Biology, biometrics, biomedicine and health care

J. MAU

A Comparison of Counting Process Models for Complicated Life Histories 283

Announcement

299

Author Index

301

Key Word Index

302